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JONATHAN MASUR

Inflation Indicators

In Patent Inflation, I argued that the asymmetry in Federal Circuit review of Patent and Trademark Office (PTO) decisions would lead over time to inflation in the boundaries defining what inventions are patentable. In short essays, Professor Arti Rai and Lisa Ouellette have offered valuable commentary, including both qualitative (Rai) and quantitative (Ouellette) evidence bearing on the question of inflation. In this brief response, I explain how their evidence is consistent with – indeed, bolsters – the theory presented in Patent Inflation. Direct Federal Circuit reversals of PTO decisions make up only a small portion of that court’s caseload. But those cases have exerted outsized influence on the development of the law, particularly across a number of the most significant patent doctrines. This is just as Patent Inflation would predict.

INTRODUCTION

Professor Arti Rai¹ and Lisa Ouellette² have written interesting and provocative responses to my article, *Patent Inflation*,³ and I thank them for their valuable contributions to this discussion. Their essays add useful empirical context—qualitative, in Rai’s case, and quantitative, in Ouellette’s—to the theory I presented. In light of that theory, their empirical findings are not entirely surprising. What is surprising is that they style their responses as

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1. Arti K. Rai, *Who’s Afraid of the Federal Circuit?*, 121 YALE L.J. ONLINE 335 (2011), <http://yalelawjournal.org/2011/12/20/rai.html>.
 2. Lisa Larrimore Ouellette, *What Are the Sources of Patent Inflation? An Analysis of Federal Circuit Patentability Rulings*, 121 YALE L.J. ONLINE 347 (2011), <http://yalelawjournal.org/2011/12/27/ouellette.html>.
 3. Jonathan Masur, *Patent Inflation*, 121 YALE L.J. 470 (2011).

critiques of the theory. To the contrary, all of Rai and Ouellette's findings are consistent with, and even supportive of, the theory I offered in *Patent Inflation*.

I. THE PTO IN INSTITUTIONAL CONTEXT

A. An Antagonistic PTO?

Arti Rai's important and thoughtful essay is most notable for the ways in which it supports the theory laid out in *Patent Inflation*. Rai points out that in two important areas—patents on software and patents on gene sequences—expansion in the law has been driven by Federal Circuit reversals of the U.S. Patent and Trademark Office (PTO).⁴ That is, the PTO had denied patents on what were then boundary-pushing software and genetic inventions—inventions that would not have been patentable under governing Federal Circuit law. The Federal Circuit then reversed these denials, granting the patents and inflating the boundaries governing what sorts of inventions might be patented. This is precisely in line with what *Patent Inflation* argued would take place: the PTO would feed the Federal Circuit a steady diet of boundary-pushing patent denials, and the Federal Circuit would eventually grant one of those patents, inflating the law governing patentability.⁵

So far so good. But Rai goes on to argue that the PTO *repeatedly* rejected software and genetic patents that were later approved by the Federal Circuit.⁶ In genetics, *In re Bell*⁷ in 1993 was followed by *In re Deuel*⁸ in 1995; in software, *In re Iwahashi*⁹ in 1989 was followed by *In re Alappat*¹⁰ in 1994. Rai reads these repeated challenges to Federal Circuit authority as an indication that some other consideration—possibly a concern for examiner workloads—had trumped the agency's desire to avoid the harm to its reputation that accompanies reversals by the Federal Circuit.¹¹

Rai is correct that repeated, ongoing challenges of Federal Circuit law, and an apparent willingness to accept significant numbers of reversals over a long period of time, would contradict the model set forth in *Patent Inflation* of a

4. Rai, *supra* note 1, at 338-39.

5. Masur, *supra* note 3, at 502-12.

6. Rai, *supra* note 1, at 338-39.

7. 991 F.2d 781 (Fed. Cir. 1993).

8. 51 F.3d 1552 (Fed. Cir. 1995).

9. 888 F.2d 1370 (Fed. Cir. 1989).

10. 33 F.3d 1526 (Fed. Cir. 1994) (en banc).

11. Rai, *supra* note 1, at 337.

PTO eager to avoid appeals and reversals. But *Patent Inflation* never meant to imply that the PTO would be reversed *at most once* on any given issue. As that article explains, inflation will be “slow and stochastic”¹²—it moves randomly, and in “fits and starts.”¹³ Moreover, the PTO is a mammoth organization, employing thousands of examiners and adjudicating hundreds of thousands of patents per year. It cannot be expected to adjust instantly and precisely after a single Federal Circuit case. Like any organization of its size, the PTO will make random errors and arrive at occasionally inconsistent results through the vagaries of its examiners and the judges of the Board of Patent Appeals and Interferences. Indeed, it is this potential for error that forces the PTO to set its cutpoint to the right of the Federal Circuit in the first instance. If the PTO were perfectly accurate and perfectly responsive, it could simply adapt instantly to whatever cutpoint the Federal Circuit has set and have no reason to fear reversal. But, of course, few agencies are able to meet such a standard.

In this respect, Rai has simply set a bar that is too high—higher than can be expected from any natural set of legal processes, and higher than *Patent Inflation* meant to set for itself. A pattern of dozens of reversals of the PTO over the course of several years might indicate that the agency has chosen to face off against the court; two isolated cases do not. The examples Rai cites are entirely consistent with the idea of a massive agency turning steadily toward a court’s set of rules, with occasional errors and misadventures along the way. And Rai herself admits that in each case the PTO “capitulated without even attempting to appeal the Federal Circuit reversal to the Supreme Court.”¹⁴

This point is made even more clear by examining the patents that the PTO *did* grant around the time of *Deuel*, *Bell*, *Iwahashi*, and *Alappat*. If Rai is correct, the PTO should not have been granting other gene patents before *Bell* or other software patents before *Alappat*. Her argument, after all, is that the PTO did not get the hint in *Deuel* and *Iwahashi*, forcing the Federal Circuit to reverse once more (in each field) before the PTO acquiesced and began granting gene and software patents. Yet nothing could be further from the truth. Prior to *Bell*—and in some cases, prior to *Deuel* as well—the PTO was granting gene patents in significant numbers.¹⁵ And prior to *Alappat*, not to mention

12. Masur, *supra* note 3, at 512.

13. *Id.* at 517 n.178.

14. Rai, *supra* note 1, at 337.

15. See, e.g., DNA Segment Containing Streptomycin Resistance Gene and Being Capable of Controlling Expression of Said Gene, U.S. Patent No. 5,202,427 (filed Feb. 25, 1991) (issued Apr. 13, 1993); 60-Amino-Acid Polypeptide, U.S. Patent No. 5,202,417 (filed Aug. 21, 1989) (issued Apr. 13, 1993); Human Preproinsulin-Like Growth Factor I, U.S. Patent No. 5,070,075 (filed Mar. 15, 1990) (issued Dec. 13, 1991).

Iwahashi, the agency was granting substantial numbers of software patents as well.¹⁶ The agency did not need these second reversals to prod it toward accepting patents on genetics and software; it had already moved quite a distance in that direction. *Bell* and *Alappat* are thus not evidence of the PTO's intransigence, but of the inherent randomness of a process that spreads hundreds of thousands of patents across thousands of examiners. The same is very likely true with respect to the cases involving the "teaching, suggestion, or motivation" test for obviousness that Rai mentions.¹⁷ Rai's analysis, like the rest of her work in patent law, is perceptive, incisive, and thorough. It is also entirely consistent with the theory enunciated in *Patent Inflation*.

B. Outside Forces

In the second and third parts of her essay, Rai describes the PTO's interactions with a variety of institutions other than the Federal Circuit—the Supreme Court, other agencies within the executive branch, and some private parties—and the impact those institutions have had on the PTO. As before, Rai is insightful and thorough. And as before, her findings are entirely consistent with the theory described in *Patent Inflation*.

First, Rai notes that the PTO has joined the Solicitor General in briefing fifteen cases before the Supreme Court since 1996. In nine of those cases, the PTO took a position opposed to the Federal Circuit.¹⁸ This is an interesting observation, but it in no way contradicts the theory behind *Patent Inflation*. Unlike typical appeals of denied patents, the PTO has nothing to lose from these types of cases. The additional expense to the agency is minimal, and PTO administrators' reputations will not suffer if the agency does not prevail—and,

16. See, e.g., Method and Apparatus for Mapping Surface Texture, U.S. Patent No. 5,333,245 (filed Dec. 10, 1993) (issued July 26, 1994); Virtual Storage Data Processor with Enhanced Dispatching Priority Allocation of CPU Resources, U.S. Patent No. 5,333,319 (filed Mar. 2, 1992) (issued July 26, 1994); Filter System Having an Adaptive Control for Updating Filter Samples, U.S. Patent No. 5,053,983 (filed Apr. 4, 1986) (issued Oct. 1, 1991).

17. See Rai, *supra* note 1, at 340 n.25 (citing *In re Sang-Su Lee*, 277 F.3d 1338, 1341-42 (Fed. Cir. 2002); *In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001); and *In re Dembiczak*, 175 F.3d 994, 1000-01 (Fed. Cir. 1999)). However, this is substantially more difficult to demonstrate. Doing so would require scrutinizing the correspondence between the patentee and the patent's examiner. Those documents are publicly available, but they are not electronically searchable. Nor should the larger number of these cases be taken as an indication of greater PTO resistance. Obviousness is an issue in nearly every patent application, so it stands to reason that more appeals would raise issues of obviousness than questions related to the patentability of software.

18. Rai, *supra* note 1, at 341.

as Rai points out, the PTO rarely loses when it joins the Solicitor General.¹⁹ Importantly, *Patent Inflation* does not claim that the PTO has any particular, systematic interest in a more or less expansive patent law. To the contrary, it is the agency's general disinterest in the substantive content of the law that contributes to its behavior. The PTO's objective is to be certain that its application of the law is at least as permissive as the Federal Circuit's—whatever the Federal Circuit's view of the law might be. This is why *Patent Inflation* argued that “[e]ven an aggressive Supreme Court cannot staunch the flow of improperly granted patents from the PTO.”²⁰ No matter where the Federal Circuit and the Supreme Court set the patentability boundaries, the PTO will always have an incentive to grant excessive numbers of patents, many of which will be invalid under governing law.

Why, then, does the PTO bother with patent cases that reach the Supreme Court? The agency might have some other institutional interest that it can only achieve through that case, such as a reduction in workload. Or, more likely, officials at the PTO might believe that they have little to lose and much to gain reputationally from winning a case before the Supreme Court. Either way, the PTO's behavior in a small number of Supreme Court cases says little about its treatment of the thousands of patents it examines. The agency's incentives in the two situations are widely divergent.

Next, Rai points to the PTO's heightened utility guidelines, which were spurred by pressure from the National Institutes of Health (NIH), as another example of the agency's willingness to defy the Federal Circuit.²¹ I discussed this example briefly in *Patent Inflation*,²² prompted by a generous suggestion from Rai herself.²³ Rai is absolutely right that outside pressure—pressure from an institution other than the Federal Circuit—can cause the PTO to hew to an interpretation of patent law more restrictive than the Federal Circuit's interpretation. Under the theory of *Patent Inflation*, this is entirely to be expected. The general point is that the same reputational concerns that would drive PTO administrators to avoid reversals would also compel them to adopt a more restrictive stance against some type of patents, if they thought it would serve their interests. If officials at the NIH—presumably with the backing of

19. *Id.*

20. Masur, *supra* note 3, at 520. Lisa Ouellette discounts this point, arguing that it “underappreciates the role of the Supreme Court in resetting the boundaries of patentability.” Ouellette, *supra* note 2, at 347. But her argument overlooks the fact that the PTO will not police these boundaries faithfully.

21. Rai, *supra* note 1, at 343–44.

22. Masur, *supra* note 3, at 521.

23. *Id.* at 521 n.194.

the White House—are pressuring the PTO, it is not at all surprising that the PTO would respond by heightening its utility standards. As Rai suggests, this type of outside pressure may serve as an important mechanism for correcting or ameliorating the Federal Circuit and PTO’s natural inflationary tendencies.

The same is true for the PTO’s treatment of information technology (IT) patents, Rai’s final example.²⁴ There, the PTO received a substantial number of complaints over a period of years from IT companies regarding the poor quality of granted patents. The agency’s response was to announce that it would henceforth reject any claim that was “amenable to two or more plausible claim constructions,” a more restrictive reading of the definiteness doctrine than the Federal Circuit has ever adopted.²⁵ Here, too, the PTO’s response was predictable. As *Patent Inflation* noted, in recent years the agency has cultivated private firms as allies in its quest for additional funding.²⁶ These efforts have paid off, as the joint lobbying efforts of the PTO and its private allies managed for several years to convince Congress to refrain from diverting PTO fees for other purposes.²⁷ It is thus unsurprising that repeated complaints from some of the PTO’s important “customers” (as it refers to them²⁸) would prompt the agency to adopt a more restrictive stance against what these firms believed were bad patents. That being said, it is hard to take the PTO’s “two or more plausible claim constructions” rule too seriously. Even a quick survey of recent patents reveals that the agency is still granting significant numbers of patents with highly ambiguous claim language, despite its protestations to the contrary.²⁹ Here, the PTO may be playing both sides: offering cheap talk to satisfy IT firms while continuing to grant excessive numbers of patents in order to avoid the ire of the Federal Circuit.

24. Rai, *supra* note 1, at 344-45.

25. *Ex parte* Miyazaki, No. 2007-3300, 89 U.S.P.Q.2d (BNA) 1207, 1212 (B.P.A.I. Nov. 19, 2008).

26. Masur, *supra* note 3, at 498 n.114; see Clarisa Long, *The PTO and the Market for Influence in Patent Law*, 157 U. PA. L. REV. 1965, 1984-88 (2009).

27. See Long, *supra* note 26, at 1987-88; Masur, *supra* note 3, at 498 & n.114.

28. Long, *supra* note 26, at 1985.

29. See, e.g., *Prism Techs., LLC v. Adobe Sys., Inc.*, No. 8:10CV220, 2011 WL 5911230, at *1, *3 (D. Neb. Nov. 28, 2011) (hinging on multiple potential meanings of the term “hardware key”); *Ewinwin, Inc. v. Groupon, Inc.*, No. 8:10-cv-2678-T-24, 2011 WL 5877037, at *3, *6 (M.D. Fla. Nov. 23, 2011) (involving multiple possible meanings of the phrase “volume pricing”); *Momenta Pharm., Inc. v. Amphastar Pharm., Inc.*, No. 11-11681-NMG, 2011 WL 5114475, at *4 (D. Mass. Oct. 28, 2011) (“Th[e] alleged infringement . . . depends on how broadly the claim term ‘separation method’ is construed.”).

II. QUANTITATIVE MEASURES OF FEDERAL CIRCUIT REVERSALS

A. *The Relevance of Case and Citation Counts*

Lisa Ouellette makes two principal points in her valuable and technically impressive response. First, she argues that very few of the patent cases decided by the Federal Circuit are reversals of PTO decisions. Second, she claims that the Federal Circuit reversals that do exist are no more influential—or perhaps even less influential—than the typical patent case. On the basis of these points, Ouellette concludes that Federal Circuit reversals cannot possibly exert the influence on patent law that I ascribe to them.³⁰ Yet Ouellette’s first point is precisely what the theory in *Patent Inflation* would predict; her second point is directly contradicted both by her own data and by Rai’s findings; and neither point supports the conclusion she draws.

Ouellette examined all published Federal Circuit decisions dealing with patentability from the years 1990, 2000, and 2008-2010.³¹ She found 324 cases dealing with patentability during those years, of which twenty-five were Federal Circuit reversals of direct appeals from the PTO or the equivalent.³² Ouellette treats this number as if it were surprisingly small, but *Patent Inflation* predicts exactly this type of result. Because the vast majority of direct appeals from the PTO involve boundary-pushing patents, the Federal Circuit will rarely reverse the PTO’s judgment. That is precisely the reason for the PTO’s behavior in the first place—a desire to avoid reversals and appeals. As I explained in *Patent Inflation*, “the Federal Circuit has reversed the PTO in only 11.8% of cases since 1997, and approximately 15% of cases since it was created in 1982, compared with a general rate of reversal across all civil cases of approximately 20%.”³³ If direct appeals from the PTO only represent a fraction of all cases heard by the Federal Circuit (because the PTO is trying to avoid denying any patents that would be worth appealing) and if the Federal Circuit

30. Ouellette, *supra* note 2, at 348.

31. The years 2008-2010 were presumably chosen because they are recent. Ouellette states that “[c]ases from 1990 and 2000 were added to the initial dataset of 2008-2010 to confirm that these findings are not a recent trend” but does not explain why she chose those years in particular except to argue that “the specific years chosen to test [Masur’s] theory should not matter.” *Id.* at 356 n.46. This is not entirely true; Ouellette risks missing important trends and cases by focusing on only a few years. (This may well have occurred; see *infra* text accompanying notes 35-41.) Because inflation is stochastic, it cannot be expected to proceed at uniform speed in every conceivable time period.

32. *Id.* at 364 tbl.3.

33. Masur, *supra* note 3, at 507 (footnotes omitted).

only overturns those appeals 12% to 15% of the time (because the appeals that are taken are unlikely to succeed), then there are bound to be relatively few Federal Circuit reversals. It would have been disquieting for the theory in *Patent Inflation* if Ouellette had instead found *significant numbers* of appeals and reversals from the PTO, as that theory predicts that the PTO has structured its processes to avoid such cases. But Ouellette found nothing of the sort. It is possible that Ouellette appreciates this fact, though it is difficult to be certain.³⁴

The real question is what impact those reversals have had. Ouellette explores this question both qualitatively and quantitatively, by scrutinizing the reversals directly and by counting the number of times they have been cited. Finding that these cases do not appear to have been cited frequently, Ouellette concludes that “these twenty-five cases represented at most minor shifts in patentability doctrine.”³⁵ That may be true for the few years that Ouellette examined. But it is not true generally, as both Ouellette’s and Rai’s work demonstrate. First, Ouellette notes almost in passing that “out of over seventy Federal Circuit cases cited in the patentability section of a leading intellectual property casebook, only ten were reversals of PTO patent rejections.”³⁶ Ouellette treats a citation in this textbook as a rough proxy for whether a case was significant. But she neglects to mention that this means that 13.3% of those significant cases are Federal Circuit reversals of the PTO, compared with 7.7% of the cases in Ouellette’s general sample.³⁷ That is to say, Federal Circuit reversals are represented in the casebook at nearly twice the rate as they appear in Ouellette’s sample. Thus, according to the authors of this “leading intellectual property casebook,” they are nearly twice as likely to be significant as the typical case. Ouellette does not consider this fact.

Second, Rai’s response is devoted to arguing *precisely the opposite* of what Ouellette claimed to find: Rai explains that Federal Circuit reversals of the PTO are driving the Federal Circuit’s jurisprudence on patentability. In particular, explains Rai, Federal Circuit reversals of the PTO are responsible for the patentability rules surrounding software programs and gene sequences.³⁸ This is just as *Patent Inflation* predicts. (Rai takes this as separate evidence that the theory behind *Patent Inflation* is flawed, but that conclusion is unwarranted for the reasons stated above.) Their disagreement is even more stark when it

34. Ouellette, *supra* note 2, at 364 (“Masur might argue that these cases *should* be rare . . .”).

35. *Id.*

36. *Id.* at 354 & n.38 (citing ROBERT P. MERGES, PETER S. MENELL & MARK A. LEMLEY, INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 128-250 (rev. 4th ed. 2007)).

37. The calculation is: $10/75 = 13.3\%$; $25/324 = 7.7\%$.

38. See Rai, *supra* note 1, at 338-39.

comes to the Federal Circuit's relaxation of the nonobviousness requirement. Ouellette devotes a paragraph to arguing that few of the important Federal Circuit nonobviousness cases are direct reversals of the PTO;³⁹ Rai spends a paragraph highlighting the important cases in which the Federal Circuit reversed PTO findings of obviousness.⁴⁰

Rai and Ouellette cannot both be correct. Yet Ouellette's primary measures of case importance—citation counts and mentions in treatises and casebooks—are only proxies for doctrinal importance. Moreover, Ouellette's quantitative analysis concerned only a few years of Federal Circuit jurisprudence, rather than the full scope of that Circuit's law on any issue. Rai's analysis, on the other hand, is based upon examination of full lines of doctrine and the cases that played crucial roles in the development of those doctrines. Accordingly, nothing in Ouellette's study refutes the conclusions that Rai reaches.⁴¹ This is one of the signature limitations of Ouellette's statistical approach: it says little about actual substantive changes in patent doctrine and nothing beyond the few years she tabulated.

Lastly, and most importantly, Ouellette's "empirical test" entirely misunderstands the argument presented in *Patent Inflation* regarding the roles of PTO reversals, PTO affirmances, and infringement cases. *Patent Inflation* argued that neither Federal Circuit affirmances of the PTO nor district court appeals in litigation will have any significant *net effect* on the direction of patent law.⁴² When the Federal Circuit affirms the PTO, it will almost always do so on the basis of existing law, leaving that law in place. Appeals in litigation, for their part, will present symmetric opportunities for inflation and deflation of the law, producing no net legal change in expectation.⁴³ Movement in the law, if it occurs, will come from Federal Circuit reversals of PTO decisions, the vast majority of which will concern boundary-pushing patents. Thus, *Patent*

39. Ouellette, *supra* note 2, at 355.

40. Rai, *supra* note 1, at 340.

41. Similarly, Ouellette criticizes the case study presented in *Patent Inflation* because the business method cases cited are not reversals of PTO denials, *see* Ouellette, *supra* note 2, at 352-53, without mentioning that the earlier software cases cited—*see* Masur, *supra* note 3, at 524 n.208 (citing *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995); and *In re Alappat*, 33 F.3d 1526, 1544 (Fed. Cir. 1994) (en banc))—were both Federal Circuit reversals of the PTO.

42. Masur, *supra* note 3, at 513-17.

43. Ouellette describes this as an "assumption," *see* Ouellette, *supra* note 2, at 370, but it is not—there is a theoretical explanation for the point. In the same sentence, Ouellette also claims that *Patent Inflation* "assum[ed] that patentability can be collapsed to a single dimension with a single boundary." *Id.* In fact, *Patent Inflation* argued precisely the opposite: there are "many different dimensions to patentability," and the theory "is entirely generalizable to any number of dimensions." Masur, *supra* note 3, at 484-85.

Inflation predicts that the Federal Circuit could decide numerous PTO affirmances and litigation appeals without producing any net directional legal impact. For Ouellette to point out that many such cases exist is to completely miss the point. What matters is which subset of cases will generate any *net* deflation or inflation in the law: PTO reversals, as *Patent Inflation* predicts, or PTO affirmances and litigation appeals as well. None of Ouellette's findings offer any purchase on this question.

Ouellette's comments regarding the Court of Customs and Patent Appeals (CCPA), the predecessor to the Federal Circuit, involve a similar misunderstanding of the mechanisms behind patent inflation. Ouellette describes as "odd" the idea that "patent inflation *increased* dramatically when stewardship over patent appeals passed from the CCPA to the Federal Circuit."⁴⁴ Contrary to what Ouellette implies, *Patent Inflation* claimed no such "dramatic increase"—those words are Ouellette's. But if other scholars are correct in describing the ongoing expansion in patentability as primarily a Federal Circuit phenomenon,⁴⁵ there is a simple structural explanation, one that *Patent Inflation* explained and that Ouellette apparently missed. While the Federal Circuit hears cases in panels, the CCPA took cases only en banc.⁴⁶ At the CCPA, then, "[t]here was no opportunity for a favorable panel to issue a boundary-stretching decision."⁴⁷ Because the CCPA heard cases only en banc, the law of that court remained tethered to the median judge. Panel heterogeneity is one of the key drivers of patent inflation.⁴⁸ Without it, inflation should occur much more slowly, if at all.

One final note is in order. *Patent Inflation* contained a falsifiable prediction: there will be greater inflation with respect to the legal doctrines that determine patentability—patentable subject matter, obviousness, and the like—than with respect to legal doctrines that arise only in the course of suits for infringement, such as inequitable conduct and willful infringement.⁴⁹ The reason is that the former are subject to institutional inflation because of the asymmetry in appeals from the PTO to the Federal Circuit, while the latter are not. If this prediction proves to be untrue, then the theory of patent inflation is likely flawed. Ouellette could have chosen to test this prediction. Instead, she elected

44. Ouellette, *supra* note 2, at 353 (emphasis in original).

45. See Ouellette, *supra* note 2, at 353 n.35.

46. Masur, *supra* note 3, at 510 n.163.

47. *Id.*

48. *Id.* at 475.

49. *Id.* at 517.

to perform a separate test, one that supports the theory that *Patent Inflation* proposed.

In sum, Ouellette's argument that PTO reversals did not significantly shift the boundaries of patentability is almost certainly incorrect, as the previous paragraphs demonstrate. But even if it were true, it would hardly constitute a refutation of *Patent Inflation*. The theory in that article was founded upon the differential impact of various types of cases upon the law. Ouellette's empirical research, interesting and impressive though it is, sheds little light on those issues.

B. Litigation-Driven Inflation

Having (mistakenly) dismissed the asymmetry in appeals from the PTO as the source of inflation in the patent law, Ouellette proposes a closely related alternative. She suggests that inflation in the rules governing patentability may be occurring because of an asymmetry in appeals of infringement cases. *Patent Inflation* observed that the patents that eventually reach the Federal Circuit are likely clustered symmetrically around the circuit's cutpoint; the Federal Circuit votes to uphold the validity of 52% of the patents it adjudicates.⁵⁰ However, Ouellette notes that patents that have been granted by the PTO carry a presumption of validity. In practice, this means that in litigation a party must demonstrate that the patent is invalid by "clear and convincing evidence." Ouellette thus argues that the patents reaching the Federal Circuit might not center around the Federal Circuit's true cutpoint, but instead around a "heightened" cutpoint that reflects the presumption of validity. This is because litigants would anticipate the Federal Circuit's demand for a higher showing of invalidity when choosing which cases to appeal. If most of the patents that arrive at the Federal Circuit in litigation are boundary-pushing patents, then the Federal Circuit will have more opportunities to expand the law than to contract it. The result might well be patent inflation.⁵¹

This is a clever and creative theory, and one based around the mechanisms and arguments described in *Patent Inflation*. Accordingly, it is important to note that it does not conflict in the least with the theory proposed in that article and might very well complement it.⁵² Indeed, the fact that Ouellette has

50. *Id.* at 515 (citing John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 241 (1998)).

51. See Ouellette, *supra* note 2, at 368-69.

52. *Patent Inflation* actually suggests a similar—though hardly identical—inflationary effect stemming from the presumption that granted patents are valid. There, I observed that the presumption of validity could make the Federal Circuit both more likely to uphold a

proposed this idea implicitly indicates that she accepts many of the arguments set forth there. Inflation via asymmetry in PTO appeals and inflation via the presumption of validity could coexist happily.

Creative as Ouellette's theory is, however, there are two reasons to doubt its accuracy. The first is simply that it is always dangerous to rely too strongly on distinctions between various standards of review. There is little evidence that courts actually treat these standards differently, particularly appellate courts dealing with questions of law or mixed questions of law and fact,⁵³ such as the Federal Circuit in cases of patent validity. It is entirely possible that the Federal Circuit simply treats the clear and convincing evidence standard as if it meant "by a preponderance of the evidence."

Second, and relatedly, Ouellette's theory relies on a type of mental dualism on the part of the Federal Circuit. On the one hand, the Federal Circuit must abide by the clear and convincing evidence standard and decide patent validity questions on that basis. This is what causes litigants to shift their appeals decisions until they are appealing primarily boundary-shifting patents. Then, the Federal Circuit must somehow "forget" that it was applying a clear and convincing evidence standard and treat its own precedents regarding presumptively valid patents as if they were de novo adjudications of those patents on the merits. Consider the alternative: the Federal Circuit upholds a boundary-pushing patent as valid in the course of litigation based on the clear and convincing evidence standard. Another patent applicant then files for a similar patent, is rejected by the PTO, and appeals. If the Federal Circuit took the clear and convincing evidence standard seriously, it would inform this unlucky applicant that its prior precedent is not binding, as that precedent was created under a clear and convincing evidence standard. This would dampen or even eliminate the process of patent inflation those decisions might otherwise further.

It seems quite unlikely that the Federal Circuit is both having its cake and eating it too in this fashion. Instead, the far likelier scenario is that the Circuit simply pays lip service to the clear and convincing evidence standard without affording it any substantive impact. The evidence for this is the fact that the

questionable patent and less likely to overturn one that should be valid under governing law. See Masur, *supra* note 3, at 516 n.177. As a result, infringement lawsuits might themselves generate slight inflationary effects. This differs in important ways from Ouellette's argument, as subsequent paragraphs will describe, but it illustrates the extent to which her proposal is compatible with the theory set forth in *Patent Inflation*.

53. See Amanda Peters, *The Meaning, Measure, and Misuse of Standards of Review*, 13 LEWIS & CLARK L. REV. 233, 236 (2009) (collecting data on over 8000 state court cases from California and Texas that "illustrate how appellate judges sometimes disregard or manipulate the various standards of review").

Federal Circuit appears to cite infringement appeals when deciding direct PTO appeals, and direct PTO appeals when deciding infringement appeals, without remarking upon the distinction.⁵⁴ So far as one can tell, the court treats these cases—and the precedents they create—as effectively identical. Nonetheless, Ouellette’s idea is intriguing and may be worthy of further study.

CONCLUSION

I wish to thank Professor Arti Rai and Lisa Ouellette for their interesting and thoughtful responses. *Patent Inflation* offered a description of how the PTO would be expected to behave, along with a series of specific predictions relating to the development of the law in light of the agency’s asymmetric relationship with the Federal Circuit. Reality is never as precise as theory, and the complexities created by multiple institutional actors comprising thousands of individuals could conceivably obscure the greater trends at work. But to an overwhelming extent, Rai and Ouellette’s findings confirm the theory presented in *Patent Inflation*. Their work thus stands as an important contribution to this ongoing project, as well as a validation of it.

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54. For example, *Prometheus Laboratories, Inc. v. Mayo Collaborative Services*, 628 F.3d 1347 (Fed. Cir. 2010), *cert. granted*, 131 S. Ct. 3027 (2011), is an infringement lawsuit in which the Federal Circuit cites *In re Grams*, 888 F.2d 835 (Fed. Cir. 1989), and *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008), both direct PTO appeals. Meanwhile, *In re Aoyama*, 656 F.3d 1293 (Fed. Cir. 2011), is a direct PTO appeal that cites *Medical Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1210 (Fed. Cir. 2003), *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008), and *AllVoice Computing PLC v. Nuance Communications, Inc.*, 504 F.3d 1236, 1245 (Fed. Cir. 2007), all infringement lawsuits. Ouellette provides evidence to support this contention as well. See Ouellette, *supra* note 2, at 369–70 nn.120–22.